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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,122	08/18/2006	Sang Min Kim	87914.00002	1310

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PATENT DEPARTMENT
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EXAMINER	
BROWE, DAVID	
ART UNIT	PAPER NUMBER
1616	
MAIL DATE	DELIVERY MODE
11/12/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/598,122	KIM ET AL.	
	Examiner	Art Unit	
	DAVID M. BROWE	1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 August 2006 and 21 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 August 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *October 12, 2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-17 are pending.

Applicants timely submission of amendments and arguments on July 21, 2009 in response to the First Office Action on the Merits is acknowledged.

Withdrawal of Prior Objections

The abstract and specification have been satisfactorily amended in response to objections presented in the first office action. Therefore, these objections are hereby withdrawn.

Withdrawal of Prior 35 USC § 112 Claim Rejection

Claim 8 has been satisfactorily amended in response to the 35 USC § 112 2nd Paragraph rejection presented in the first office action. Therefore, the rejection of claim 8 is hereby withdrawn.

Withdrawal of Prior 35 USC § 103 Claim Rejections

Upon further search and consideration, the previous rejection of claims 1-10 under 35 USC § 103 has been withdrawn. A new ground(s) of rejection is being made below. Applicant's arguments with respect to the rejection of claims 1-10 under 35 USC § 103 in the response filed July 21, 2009 have been considered but are moot in view of the new ground(s) of rejection.

Accordingly, this action is non-final.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes *et al.* (U.S. Patent No. 4,721,723), in view of Sachs *et al.* (U.S. Patent No. 6,068,856) and Karehill *et al.* (U.S. Patent No. 6,605,303).

Applicant Claims

Applicants claim a sustained-release tablet with a) a core comprising paroxetine, b) a separation layer that completely encloses the core comprising a water-insoluble

polymer and/or a water-soluble polymer, and c) an enteric coating layer. The paroxetine is paroxetine hydrochloride hemihydrate. The core weight is comprised of 40-90 wt% paroxetine-containing granules, the granule weight comprised of 3-30 wt% high-viscosity hydroxypropyl methylcellulose and 10-40 wt% low-viscosity hydroxypropyl methylcellulose, with viscosity ranges of 3,000-14,000 cps and 40-60 cps, respectively; and further comprises low-viscosity hydroxypropyl methylcellulose and other pharmaceutically acceptable binders and excipients. The separation layer comprises 1-30 wt%, based on the weight of the tablet core; and is prepared from at least one water-insoluble polymer selected from the group consisting of ethylcellulose, polyvinyl acetate, and ammoniomethacrylate copolymer type B; and/or at least one water-soluble polymer selected from the group consisting of hydroxypropyl methylcellulose, methylcellulose, polyvinylpyrrolidone, ammoniomethacylate copolymer type A, and polyvinyl alcohol. The enteric coating layer is prepared from a polymer selected from the group consisting of methacrylate copolymer, hydroxypropyl methylcellulose phthalate, hydroxypropyl methylcellulose acetate phthalate, cellulose acetate phthalate and carboxymethylethylcellulose.

Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

Barnes *et al.* disclose a pharmaceutical composition comprising crystalline paroxetine hydrochloride hemihydrate formulated into a tablet for oral administration with pharmaceutically acceptable carriers, including diluents, binders, disintegrants, and other excipients (Col. 1, lns. 57-61; Col. 5, lns. 45-48, 50, 60, 62-63, 65-66).

Sachs *et al.* disclose a sustained-release tablet with a) a core comprising pantoprazole, an acid-labile active ingredient, or its salts and hydrates, b) a separation layer that completely encloses the core comprising a water-insoluble polymer and/or a water-soluble polymer, and c) an enteric coating layer (Col. 1, lns. 11-14; Col. 2, lns. 16-21; Col. 4, lns. 49-57; Col. 5, lns. 42-50). The core weight is comprised of 40-90 wt% active agent-containing granules, as well as low-viscosity hydroxypropyl methylcellulose and other pharmaceutically acceptable binders and excipients (Col. 5, lns. 30-41; Col. 6, lns. 20-30). The separation layer comprises 1-30 wt%, based on the weight of the tablet core; and is prepared from at least one water-insoluble polymer selected from the group consisting of ethylcellulose, polyvinyl acetate, and ammoniomethacrylate copolymer type B; and/or at least one water-soluble polymer selected from the group consisting of hydroxypropyl methylcellulose, methylcellulose, polyvinylpyrrolidone, ammoniomethacylate copolymer type A, and polyvinyl alcohol (Col. 4, lns. 49-57; Col. 5, lns. 42-51; Col. 6, lns. 20-45). The enteric coating layer is prepared from a polymer selected from the group consisting of methacrylate copolymer, hydroxypropyl methylcellulose phthalate, hydroxypropyl methylcellulose acetate phthalate, cellulose acetate phthalate and carboxymethylethylcellulose (Col. 5, lns. 63-67; Col. 6, lns. 1-5).

Karehill *et al.* disclose a sustained-release tablet with a) a core comprising omeprazole or another acid-labile active ingredient, b) an optional separation layer that completely encloses the core, and c) an enteric coating layer (Col. 1, lns. 8-13; Col. 3, lns. 25-29, 55-67; Col. 4, lns. 1-5). The core is composed of omeprazole-containing granules with granule weight comprised of 3-30 wt% high-viscosity hydroxypropyl

methylcellulose and 10-40 wt% low-viscosity hydroxypropyl methylcellulose, with viscosity ranges of 3,000-14,000 cps and 40-60 cps, respectively (Col. 16, lns. 5-15); and further comprises other pharmaceutically acceptable binders and excipients (Col. 4, lns. 13-15, 28-30).

Ascertainment of the Difference Between the Scope of the Prior Art and the Claims (MPEP §2141.012)

Barnes *et al.* disclose tablets comprising paroxetine hydrochloride hemihydrate, an acid-labile active agent, formulated with pharmaceutically acceptable excipients. Barnes *et al.*, however, do not explicitly teach stable, enteric coated, sustained release tablet formulations of paroxetine hydrochloride hemihydrate. This deficiency is cured by the teachings of Sachs *et al.* and Karehill *et al.* Sachs *et al.* teach stable, sustained-release tablet formulations comprising an acid-labile active agent-containing core surrounded by a separation layer that completely encloses the core comprising a water-insoluble polymer and/or a water-soluble polymer, and an enteric coating layer. Karehill *et al.* teach matrix formulations for an acid-labile active agent, that are convenient to process, readily compatible with the use of additional coatings and semipermeable membranes, help stabilize the drug, and effectively provide sustained and continuous drug release for once daily administration, with improved patient compliance,

Finding of Prima Facie Obviousness Rational and Motivation (MPEP §2142-2143)

It would have been *prima facie* obvious for one of ordinary skill in the art at the time of the present invention to combine the teachings of Barnes *et al.*, Sachs *et al.*, and

Karehill *et al.* to arrive at a sustained-release tablet with a) a core comprising paroxetine hydrochloride hemihydrate in granules specifically combined with 3-30 wt% high-viscosity hydroxypropyl methylcellulose and 10-40 wt% low-viscosity hydroxypropyl methylcellulose, having viscosity ranges of 3,000-14,000 cps and 40-60 cps, respectively; and low-viscosity hydroxypropyl methylcellulose and other excipients, b) a separation layer that completely encloses the core comprising a water-insoluble polymer and/or a water-soluble polymer, and c) an enteric coating layer.

One of ordinary skill in the art would have been motivated to do this because of the following rationale. Since Sachs *et al.* teach a stable, safe, and effective sustained-release tablet formulation of pantoprazole, an acid-labile drug, with a) a core comprising 40-90 wt% of pantoprazole-containing granules, combined with low-viscosity hydroxypropyl methylcellulose and other pharmaceutically acceptable binders and excipients, b) a separation layer comprising a water-insoluble polymer and/or a water-soluble polymer, and c) an enteric coating layer; one of ordinary skill in the art would be motivated to formulate paroxetine hydrochloride hemihydrate, another acid-labile drug, using the tablet formulation disclosed by Sachs *et al.*, with the reasonable expectation of success that this formulation will likewise produce a stable, safe, and effective sustained release tablet of paroxetine hydrochloride hemihydrate. Further, since Karehill *et al.* teach matrix formulations for omeprazole, another acid-labile drug in the same class as pantoprazole, that are easy and convenient to process, readily compatible with the use of additional coatings and semipermeable membranes, help stabilize the drug, and effectively provide sustained and continuous drug release for once daily

administration, with improved patient compliance, one of ordinary skill in the art would be motivated to formulate paroxetine hydrochloride hemihydrate using the specific matrix composition taught by Karehill *et al.*, with the reasonable expectation of success that the paroxetine matrix granules would likewise be convenient to process, readily compatible in a tablet formulation with multiple coating layers, and effectively stabilize and enable once daily dosing of the drug with improved patient compliance.

In light of the forgoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a).

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID M. BROWE whose telephone number is 571-270-1320. The examiner can normally be reached on Monday-Friday 7:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann R. Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DAVID M. BROWE
Patent Examiner, Art Unit 1616

/Ernst V Arnold/

Primary Examiner, Art Unit 1616